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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,612	11/29/2001	Thomas W. Lanzatella	1557.003US1	7395
7590 12/14/2004				
B. NOEL KIVLIN MEYERTON, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. P.O. BOX 398 AUSTIN, TX 78767			EXAMINER	
			TRUONG, LECHI	
			ART UNIT	PAPER NUMBER
			2126	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,612	THOMAS	
	Examiner	Art Unit	
	LeChi Truong	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1/27/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-24 are presented for the examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following terms lack proper antecedent basis:

The physical— claim 22;

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US. Patent 6,564,219 B1).
4. As to claim 1, Lee teaches the invention substantially as claimed including: an interface (an application programming interface (API), col 3, ln 25-27), a storage object (a storage device,

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col 3, ln 27-29), an identifier for the storage object (col 7, ln 41-43), a map (mapping, col 3, ln 42-44), requesting a map for the storage object (col 3, ln 42-46/ col 9, ln 64-67/ col 10, ln 1-8), establishing a configuration identifier associated with the map (col 9, ln 50-55/ col 18, ln 4-10/ col 19, ln 25-30), using the identifier, the map, and the configuration identifier with one or more access to the storage object(col 4, ln 1-9/ col 18, ln 9-14/ col 18, ln 23-27). Lee does not explicit teach the term acquiring. However, Lee teaches acquiring (organized, col 7, ln 41-45). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to apply the teaching of Lee because Lee's organized would identifies portions of the storage systems that include data which has changed subsequent to a particular reference time.

5. As to claim 4, Lee teaches the configuration identifier, the map is modified (col 10, ln 1-9), a subsequent configuration identifier is established for the modified map (col 18, ln 23-26).

6. As to claim 5, Lee teaches the configuration identifier, the map is altered (col 10, ln 1-9), a subsequent configuration identifier is established for the modified map (col 18, ln 23-26).

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US. Patent 6,564,219 B1) in view of Amatsu et al (US. Patent 5,471,615).

8. As to claim 2, Lee teaches the map represents a logical representation of the storage object (col 9, ln 8-12).

9. Lee does not explicit teach the storage object in a first storage environment. However, Amatsu teaches the storage object in a first storage environment (a separate file system distinct

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from the file systems of the different operating systems is provides... a storage devices attached to other system, col 5, ln 17-22/ col 2, ln 31-37).

10. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching Lee and Amatsu because Amatsu's the storage object in a first storage environment would allow files to be used by programs running under very different operating systems.

11. **As to claim 3**, Amatsu teaches a second different operating system (col 5, ln 19-23).

12. Claims 6-13, 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US. Patent 6,564,219 B1) in view of Field et al (US. Patent 6,253,324 B1).

13. **As to claim 6**, Lee does not explicit teach a dynamic linked library. However, Field teaches a dynamic linked library (DLL, col 5, ln 35-36).

14. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching Lee and Field because Field's DLL would provides a plurality of interfaces and associated methods that can be called to exploit the full functionality of the storage server.

15. **As to claim 7**, Field teaches shared library (col 5, ln 37-38).

16. **As to claim 8**, Lee teaches application programming interface (API)(API, col 3, ln 25-28), a persistent data structure (physical bocks col 8, ln 22-27/ data structures, col 9, ln 8-12), generate a persistent data structure of a stored object (col 3, ln 41-47 / col 8, ln 65-67 and col 9, ln 64-68/ COL 15, ln 60-64), an assign configuration identifier (change API, col 18, ln 23-25/ the

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record identification routine, col 25, ln 4-5/ ln 32-35), an assign configuration identifier module operable to associate with the persistent data structure (col 17, ln 64-67 to col 18, ln 1-6 and ln 11-14), notify a client module when the persistent data structure is modified(col 18, ln 23-30/ ln 50-59), an alternate map module(the reorganization routine, col 20, ln 58-62/ col 21, ln 20-22), an alternate map module activated to generate one of more alternate persistent data structure for the storage object(col 21, ln 20-24), the storage object is replicated within the first storage environment(col 21, ln 17-21).

17. Lee does not explicit teach an establish map module, the first storage environment. However, Field teaches an establish map module, the first storage environment, library (createFileMapping () API call, col 8, ln 8-10/ an operating system 35, col 4, ln 1 and col 5, ln 10-12/ dynamically linked library (DLL), col 5, ln 35-37).

18. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee and Field because Field's establish map module, the first storage environment would make the client program access and manipulate data within the files much easier.

19. **As to claim 9**, Field teaches an obtain storage object identifier module operable to associate a unique identifier handle with the storage object (col 8, ln 55-60).

20. **As to claim 10**, Lee teaches retrieve extent module operable to provide one or more extent associated with the storage object (col 17, ln 53-56).

21. **As to claim 11**, Lee teaches a defined number of the extents (col 18, ln 24-26).

22. **As to claims 12 and 13**, they are apparatus claims of claims 6 and 7; therefore, they are rejected for the same reasons as claims 6 and 7 above.

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23. As to claim 15, it is an apparatus claim of claim 8; therefore, it is rejected for the same reason as claim 8 above.

24. As to claim 16, Lee teaches storage map module (the mapping API, col 12, ln 30-32), an assign configuration identifier module (change API, col 18, ln 23-25/ the record identification routine, col 25, ln 4-5/ ln 32-35).

25. As to claim 17, Lee teaches alternative map module (the reorganization routine, col 20, ln 58-62/ col 21, ln 20-22).

26. As to claim 18, Field teaches the client module execute in a second storage environment(col 5, ln 46-50).

27. As to claim 19, Field teaches the API library (API call (), col 6, ln 40-41), the first operating system (operating system 35 of the storage system, col 4, ln 1-2/ col 10-15/ Fig. 2), the second operating system (the application referred to as client programs executing under an Window operating system, col 5, ln 46-51).

28. As to claims 20 and 21, they are apparatus claims of claims 6 and 7; therefore, they are rejected for the same reasons as claims 6 and 7 above.

29. As to claim 22, Lee teaches a notification module residing within API (the reset API, col 18, ln 63-64), the client module (the logical blocks, col 18, ln 50-53 ln 64-65), the physical location (physical level, col 18, ln 50-53 ln 64-65) the client module is notified by a notification module residing within API when one or more the physical location associated with the storage object change in the first storage environment (col 18, ln 54-53 and ln 63-67). The reset API notifies the client module because the reset API is used to monitor the change in logical object according to the change at the physical object.

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30. Lee does not explicit teaches the storage object located in a first storage environment, the client module is executed in a second storage environment, library. However, Field teaches the storage object located in a first storage environment, the client module is executed in a second storage environment, library (operating system 35 of the storage system, col 4, ln 1-2/ col 10-15/ Fig. 2/ the application referred to as client programs executing under an Window operating system, col 5, ln 46-51/ library, col 5, ln 35-36).

31. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee and Field because Field's map module, the first storage environment would allow application program to utilize functionality provided by the Window operating system.

32. **As to claim 23**, Field teaches interface a first file system associated with the storage object in the first environment to a second file system associated with the client module in the second storage environment (col 5, ln 38-44).

33. Claims **14 and 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US. Patent 6,564,219 B1) in view of Field et al (US. Patent 6,253,324 B1) and further in view of Amatsu et al (US. 5,471,615).

34. **As to claim 14**, Lee teaches the map represents a logical representation of the storage object (col 9, ln 8-12).

35. Lee and Field do not explicit teach the client module executes in a second storage environment different from the first storage environment. However, Amatsu teaches the client

module executes in a second storage environment different from the first storage environment (a separate file system distinct from the file systems of the different operating systems is provides... a storage devices attached to other system, col 5, ln 17-22/ col 2, ln 31-37).

36. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching Lee, Field and Amatsu because Amatsu's the client module executes in a second storage environment different from the first storage environment would allow files to be used by programs running under very different operating systems.

37. As to claim 24, Field teaches first storage environment resides within a first operating system (col 5, ln 10-12, operating system, Fig 1), the second storage environment resides in a second operating system (col 5, ln 46-51).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (571) 272 3767. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

December 8, 2004


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